Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

a portion of the hide to soak in it. In some of the experiments the solution is to be allowed to remain undisturbed until the tannin has struck through; in others the jar is to be shaken at intervals of one day until the skin is tanned; the results in all cases being observed and recorded.

Number.— As the subject-matter of the grade has not required number which made sufficient demands upon the abilities of the children, the number work has been for the most part separate from their other work. The work on the weather records in science requires ability to handle percentage problems. To meet this, drill in such problems has been given.

Applied arts.—The work in bookbinding has been begun. As has been stated before, the work to be done is the binding of magazines and reading lessons for the school. The school has received gifts of old magazines. Where consecutive numbers have been received, it is planned to bind them in volumes, each containing six numbers; but where numbers are not consecutive, the children have taken out those articles which they consider valuable. These they will classify and bind in their respective classifications. It was suggested by the children that they bring books from home to rebind, as practice work, before beginning the binding of the magazines.

Manual training.— The manual-training work of the grade has been the making of sewing benches for the bookbinding. (For a diagram and description of the sewing bench see Mr. Carley's outline on manual training in this number.)

EIGHTH GRADE.

KATHARINE M. STILWELL.

REVIEW FOR JANUARY.

THE outline of work for December and January, as it appeared in December, was not begun until January, because the handwork for Christmas required much time in December. A few changes were made in details, but the work in general has been carried on as planned.

The proposed isthmian canal proved to be the most interesting of the current events of the month, and perhaps a review of the work done on this topic will prove to be of interest. We took up the subject from the standpoint of an American citizen, beginning with the question as to whether we have any need of a canal. The attempt to answer this question led to an investigation of the trade relations existing between the different sections of our country and between the United States and the rest of the world. The study of our exports and imports—the kind of articles exported and imported, and their value—caused the pupils to read on the South American countries

— Chile, Argentina, and Brazil; on the Asiastic countries — China, Japan, and the Long Plateau; and the Philippine Islands and Porto Rico. In the study of Porto Rico they were materially assisted by a lesson given by Miss Huff, of the pedagogic class, who taught in San Juan last year. This aroused the interest of the pupils to so great a degree that they wrote letters to school children living in San Juan, asking for additional information.

Thus far we had studied the geography of these countries wholly with reference to their relation to America. This led us to feel the necessity for a knowledge of the earth as a whole. In the study of this topic we adhered to the plan outlined, the class expressing the great land masses by modeling in sand. The pupils studied the relation of the various parts of these continents and their means of communication, natural and artificial. This brought about a review of the history of various explorers — Columbus, Cortez, Balboa. It gave the pupils a different standpoint from which to view the work of these men, and led them to see in a new light the problems confronting us as American citizens.

Then followed the study of the surface of the isthmus in order to determine the best geographical location for the canal. The pupils examined pictures and maps, and read articles in Mill's *International Geography; The Earth and its Inhabitants*, by Reclus; the *National Geographic Magazine;* and different geographical readers dealing with the structure, rainfall, and other physiographic features of this region. They expressed the knowledge of the isthmus thus gained by relief maps, modeled in chalk. We used the work that was being done in nature study to make these pictures of climate vivid. The pupils compared the weather conditions in Chicago with the weather conditions on the canal routes. The fact that the records have not been carefully kept at Nicaragua for any length of time was a source of annoyance to one particular pupil, who heretofore has not been interested in keeping his record.

They read the history of the canals published by the daily papers, and then, having enough knowledge of the subject to form an opinion, they ranged themselves into two committees, one side favoring one route, and one the other, and prepared for a debate. They read the *National Geographic Magazine*, the *Report of the Isthmian Canal Commission*, the *Review of Reviews*, the *Outlook*, the *Little Chronicle*, *Scribner's*, the teacher's scrapbook of newspaper clippings, containing a complete account of the canals, and the daily press reports.

Each pupil then wrote a paper, accompanied by a map and drawings, describing the surface of the isthmus and setting forth the advantages of his side of the question. He read his paper to his committee, which chose the strongest three to present their side of the question in the debate. The arguments made are printed below.

The results of this month's study are apparent. The general effect of the debate was good. While the interest was intense, the pupils handled the subject in an earnest, dignified manner, and without undue partisanship. There has been a gain in the formal studies, reading, writing, and drawing. Map-drawing has received an impetus, not only in the direction of skill, but also in the realization by the pupils that the ability to draw a good map depends not so much upon technique as upon a knowledge of the structure of the country to be drawn. The work in composition showed improvement; the papers were fuller than usual, the arguments stronger, the topics better arranged, and the thoughts expressed in fairly good language.

The study of the Erie canal (see "History" in the seventh-grade outline printed in December) was related closely to the isthmian canal, and interest was likewise shown in that subject. We had already considered the building of the Cumberland road, and its inadequacy to the trade of the frontier. Out of this arose the question of the canal. The pupils discussed its location, the necessity for its construction, its effect and present use; and were led to see its influence in the building of the Illinois and Michigan canal.

NOTE.—In October the eighth grade studied the effect of this canal upon the growth and development of Chicago.

A MORNING EXERCISE BY THE EIGHTH GRADE.

Music—"Ring out, Wild Bells."

Reading—Selections from Walt Whitman's "Passage to India," Miss Stilwell.

Music—"America."

Debate—"*Resolved*, That the Panama route is the best route for the isthmian canal."

AFFIRMATIVE.[1]

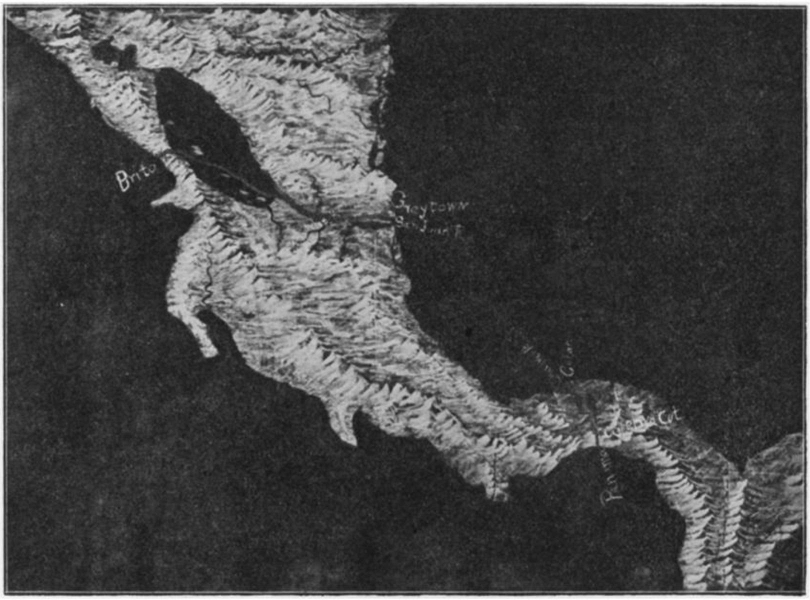
This route combines a very narrow isthmus with a low summit, the width of the isthmus being thirty-six miles in a straight line, with a summit of 300 feet. The canal with all its curves is only forty-nine miles long. The Panama canal will be a lock canal, with its summit level at Lake Bohio. Leaving Colon, the Atlantic terminus, the route then follows along the marshes, to a little place called Gatun, on the Chagres river; from that point it follows the line of this river in a general way to Obispo, thirty miles from Colon. At Obispo the route leaves the Chagres and enters the Emperador cut, which merges into the Great Culebra cut where the line crosses the continental divide; from the latter point its general course lies along a small stream, called the Rio Grande, until it reaches the Pacific at Panama.

The estimated cost of constructing a canal at Panama is $144,000,000; at Nicaragua it is $189,000,000. Some years ago a French company started a Panama canal, and they have offered their rights, $27,000,000 worth of excavation, railroad stock, valuable maps, drawings, etc., for $40,000,000. Thrown in with this is a very valuable article, that money cannot buy—experience. You may say that the best is always the cheapest. In this case the best is in reality the cheapest. Panama is also cheaper to maintain, costing $2,000,000 yearly, while Nicaragua would cost $3,300,000.

---

[1] For lack of space the arguments of the second and third speakers for the affirmative and the negative are summarized.

The time estimated to construct a canal at Panama is ten years; at Nicaragua, eight years. Later a member of the commission said: "I believe the time should be exchanged, making Panama two years shorter than Nicaragua, or at most equal."



THE PANAMA AND NICARAGUA CANAL ROUTES.
(Modeled by eighth-grade pupils.)

A ship could pass through a Panama canal in twelve hours, or in daytime, while it would take thirty-three hours to go through Nicaragua, and would have to tie up two nights.—MONROE COLE.

1. The expense of maintenance will be greater at Nicaragua, owing to the dredging necessary.

2. The expense of building the Panama canal will be less than that of building the Nicaragua.

3. Nicaragua will require eight locks; Panama, five.

4. At Panama there is a railroad the entire length of the canal available for use in construction.

5. By purchase from the French company, buildings for shelter of machinery and laborers, and a well-equipped hospital will be acquired in the bargain.— KATHARINE ROOT.

1. The Panama canal terminates in two natural harbors; the Nicaragua route has none.

2. The present population of the territory through which the Panama canal passes is far greater than that at Nicaragua.

3. Panama has only twenty-two curves; Nicaragua has fifty-six, and these are sharp and difficult.—RUTH CHIPMAN.

NEGATIVE.

The proposed Nicaragua route begins at Greytown, on the Atlantic, extends northwest to the lake, follows a westerly direction through the lake, leaves the lake at Las Lajas, following the Rio Las Lajas valley in a slight southwesterly course, till it crosses the continental divide in its lowest point between Alaska and Cape Horn, and then through the Rio Grande river valley to the Pacific at Brito. The lake was once a bay of the Pacific and has been shut off from the ocean by material thrown up by volcanoes. It is 3,000 square miles in area. Its outlet is the San Juan river, which flows through a coastal plain, made by the sediment carried down from Costa Rica, and it empties through a delta into the Atlantic.

The features of the canal are: the control of the water supply, which is to be done by regulating works, consisting of a masonry dam and an overflow at Conchuda, near the mouth of the San Carlos river; harbors at either terminus; and the construction of locks.

One advantage of this route is the natural lake, so that vessels sailing through the upper course of the river and on Lake Nicaragua will have easy sailing over level water for 117 miles.

The control of the water supply is not automatic, as at Panama, but this is no disadvantage; for having given the number and volume of locks in a canal, and the number of times they will be opened in a day, it is a simple matter to calculate how much water is required to run the canal. Even our opponents could compute it.

The construction of the Conchuda dam is the most important engineering work; but the location selected for the dam makes the work comparatively simple and cheap.

The work at Nicaragua has the advantage, because it can be carried on at many places at the same time. At Panama nearly one-half of the excavation has to be done in one place, on the Culebra cut.

It is therefore evident that the engineering as well as the physical features are in favor of Nicaragua.— ALBERT BUTLER.

1. The Nicaragua route is 500 miles nearer to the United States than is the Panama route.

2. The Nicaragua route is the shortest line for all commerce, excepting that originating or ending on the west coast of South America.

3. The time required to build the Nicaragua canal is estimated by the commission to be eight years; for the Panama, ten years.

4. The climate at Nicaragua is more healthful.

5. The Nicaragua route is more favorable for sailing vessels than the Panama.— HORACE CUTLER.

1. It will be difficult for the United States to acquire a clear title to the Panama canal.

2. The harbors at the extremities of the Panama channel are unsatisfactory, owing to rough seas at Colon and drifting sand. More advantageous harbors can be constructed at Nicaragua at small cost.— MARIE MILLER.